Lot 7—Fields 1, 2

FIELD WORKSHEET #1
GENERAL FORESTRY INFORMATION

Lot # 7 **Total Acres:** 76 **Field Number(s):** 1, 2 **Acres:** 23 **Date:** 9/5/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable		Condition (Good, Fair, Poor)
Sugar Maple	12-24	Heavy	18	Multiple		85	32	Good
American Beech	12-27	Heavy	18	Multiple		84	24	Fair

* "S" refers to saplings, "P" refers to pole size dimensions, "SL" refers to saw log dimensions
** Represents the most recent growth rings per inch from a core sample

Comments
Field Number 1 represents a mature Hardwood Forest dominated by Sugar Maple (Acer saccharum) and American Beech (Fagus grandifolia). This forest, possessing an extremely high basal area, provides an excellent opportunity for selective hardwood management. Field Number 2 seems to be a natural extension to Field Number 1.

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems
This field contains a westerly flowing intermittent stream.

Fire Lane Status
The Fire Break in Field Number 1 is approximately 8 feet wide and is in need of widening, clearing and pruning. The Fire Break in Field Number 2 has recently been improved and is generally in good condition.

Lot 7—Fields 1, 2

FIELD WORKSHEET #2
ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is of heavy density and is characterized by the dominant species of Sugar Maple (Acer saccharum) and American Beech (Fagus grandifolia).

Subcanopy

The subcanopy is of medium - heavy density and is represented by a variety of hardwood species such as Sugar Maple (Acer saccharum), American Beech (Fagus grandifolia) and Hophornbeam (Ostrya virginiana).

Shrub Layer

The shrub layer is of light density and includes Brambles (Rubus spp.) and Spicebush (Lindera benzoin).

Herbaceous Layer

The herbaceous layer is of medium density and includes a variety of ferns such as Evergreen Woodfern (Dryopteris intermedia), Christmas fern (Polystichum acrostichoides), Hayscented fern (Dennstaedtia punctilobula), Long Beech fern (Thelypteris phegopteris) and New York fern (Thelypteris noveboracensis) along with Tree Clubmoss (Lycopodium obscurum), scattered herbaceous plants and a very high seedling count.

Successional Status

These fields represent mature Hardwood Forests of Sugar Maple (Acer saccharum) and American Beech (Fagus grandifolia). These species will continue to dominate as they further evolve into a Climax Hardwood Forest.

Botanical Concerns - includes both invasive and protected species

Invasive: None

Protected: All ferns listed under "Herbaceous Layer" except Hayscented fern (Dennstaedtia punctilobula). Other protected plants include American Ginseng (Panax quinquefolius), Painted Trillium (Trillium undulatum), White Baneberry (Actaea pachypoda) and Tree Clubmoss (Lycopodium obscurum).

Lot 7—Fields 3, 4, 5, 7 and 8

FIELD WORKSHEET #1
GENERAL FORESTRY INFORMATION

Lot # 7 **Total Acres:** 76 **Field Number(s):** 3, 4, 5, 7 and 8 **Acres:** 28 **Date:** 9/3/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable	Condition (Good, Fair, Poor)
Norway Spruce	P-18	Medium - Heavy	26	Even	76	65	Good
Scotch Pine	P-18	Medium - Heavy	16	Even	76	75	Fair
White Pine	P-19	Medium - Heavy	20	Even	76	74	Fair
Larch	P-18	Light	28	Even	76	94	Good

* "S" refers to saplings, "P" refers to pole size dimensions, "SL" refers to saw log dimensions
** Represents the most recent growth rings per inch from a core sample

Comments
Field Number 3 represents a mature Conifer Plantation in the early stages of hardwood succession except for mature Black Cherry (Prunus serotina) along the eastern boundary.
Field Numbers 4 and 7 represent mature Conifer Plantations in the early - mid stages of hardwood succession.
Field Number 5 represents a mature Conifer Plantation in the mid - late stages of hardwood succession.
Field Number 8 represents a mature Conifer Plantation in the late stages of hardwood succession dominated by Black Cherry (Prunus serotina) with a D.B.H. of 13-26.

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems
These fields contain a westerly flowing intermittent stream that crosses Field Numbers 5 and 7.

Fire Lane Status
The Fire Break in these fields, approximately 18 feet wide, has recently been improved and is generally in good condition although canopy pruning would be recommended.

Lot 7—Fields 3, 4, 5, 7 and 8

FIELD WORKSHEET #2
ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is of medium - heavy density and is characterized by the dominant conifers of Norway Spruce (Picea abies), Scotch Pine (Pinus sylvestris) and White Pine (Pinus strobus) along with variable intrusions of Sugar Maple (Acer saccharum) and Black Cherry (Prunus serotina).

Subcanopy

The subcanopy is of light - heavy density and is represented by a variety of hardwood species.

Shrub Layer

The shrub layer is generally of light density and includes Brambles (Rubus spp.), Viburnums (spp.), Dogwoods (Cornus spp.), Tartarian Honeysuckle (Lonicera tartarica), Poison Ivy (Rhus radicans), Spicebush (Lindera benzoin) and Multiflora Rose (Rosa multiflora).

Herbaceous Layer

The herbaceous layer is of medium - heavy density and is dominated by a variety of ferns such as Evergreen Woodfern (Dryopteris intermedia), Lady fern (Athyrium filix-femina), New York fern (Thelypteris noveboracensis), Hayscented fern (Dennstaedtia punctilobula) and Sensitive fern (Onoclea sensibilis) along with scattered herbs.

Successional Status

These fields represent mature Conifer Plantations in varying stages of hardwood succession.

Botanical Concerns - includes both invasive and protected species

Invasive: Tartarian Honeysuckle (Lonicera tartarica) and Multiflora Rose (Rosa multiflora)

Protected: All ferns listed under "Herbaceous Layer" except Hayscented fern (Dennstaedtia punctilobula) and Sensitive fern (Onoclea sensibilis). White Baneberry (Actaea pachypoda) is also protected.

Lot 7—Fields 6, 9 and 10

FIELD WORKSHEET #1
GENERAL FORESTRY INFORMATION

Lot # 7 **Total Acres:** 76 **Field Number(s):** 6, 9 and 10 **Acres:** 17 **Date:** 9/3/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable	Condition (Good, Fair, Poor)
Red Pine	P-16	Heavy	26	Even	66	80	Good
Norway Spruce	P-17	Heavy	11	Even	66	70	Good
Black Cherry	12-20	Medium	12	Multiple		72 36	Good

* "S" refers to saplings, "P" refers to pole size dimensions, "SL" refers to saw log dimensions
** Represents the most recent growth rings per inch from a core sample

Comments
These fields represent mature Conifer Plantations of Red Pine (Pinus resinosa) and Norway Spruce (Picea abies) with significant intrusions of mature Black Cherry (Prunus serotina).

Aquatic Systems – includes both lentic (standing water) and lotic (flowing water) systems
These fields contain a westerly flowing intermittent stream that crosses through Field Numbers 5,7 and 8.

Fire Lane Status
The Fire Break in these fields is generally 7-13 feet wide and is in need of significant widening, clearing and pruning.

Lot 7—Fields 6, 9 and 10

FIELD WORKSHEET #2
ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is of medium - heavy density and is characterized by the dominant species of Red Pine (Pinus resinosa) and Norway Spruce (Picea abies) along with Black Cherry (Prunus serotina).

Subcanopy

The subcanopy is of light density and is represented primarily by Black Cherry (Prunus serotina).

Shrub Layer

The shrub layer is of light density and includes Brambles (Rubus spp.), Northern Arrowwood (Viburnum recognitum), Spicebush (Lindera benzoin), Tartarian Honeysuckle (Lonicera tartarica) and Dogwoods (Cornus spp.).

Herbaceous Layer

The herbaceous layer is of light density and is dominated by a variety of ferns such as Evergreen Woodfern (Dryopteris intermedia) and Sensitive fern (Onoclea sensibilis) along with Tree Clubmoss (Lycopodium obscurum) and scattered herbs.

Successional Status

These fields represent mature Conifer Plantations in the mid - late stages of hardwood succession.

Botanical Concerns - includes both invasive and protected species

Invasive: Tartarian Honeysuckle (Lonicera tartarica)

Protected: Evergreen Woodfern (Dryopteris intermedia) and Tree Clubmoss (Lycopodium obscurum).

Lot 7—Field 11

FIELD WORKSHEET #1
GENERAL FORESTRY INFORMATION

Lot # 7 **Total Acres:** 76 **Field Number(s):** 11 **Acres:** 8 **Date:** 9/3/03

Reported By: Earth Spirit Educational Services, Inc.

Principal Species	DBH* (inches)	Density (Heavy, Medium, Light)	Growth Rate**	Age Class (Even/Mult.)	Age	Heights (feet) Crown/Usable		Condition (Good, Fair, Poor)
American Beech	S/P/SL	Heavy	16	Multiple		80	38	Fair

* "S" refers to saplings, "P" refers to pole size dimensions, "SL" refers to saw log dimensions
** Represents the most recent growth rings per inch from a core sample

Comments
This field represents a generally "open" and young Hardwood Forest dominated by American Beech (Fagus grandifolia) and a variety of subdominant hardwoods. Note: Discovered an American Elm with a D.B.H. of 22 inches and two deer stands. All Terrain Vehicles have been used in this area. These uses are strictly prohibited on County Forest property and violators will be prosecuted.

Aquatic Systems - includes both lentic (standing water) and lotic (flowing water) systems
None

Fire Lane Status
None - although the Fire Break that crosses Field Number 9 continues into Field Number 11 as a narrow hiking trail.

Lot 7—Field 11

FIELD WORKSHEET #2
ECOLOGICAL ANALYSIS

Ecological Overview

Forest Physiognomy (outer appearance)

Canopy

The canopy is of medium density and is characterized by the dominant species of American Beech (Fagus grandifolia) along with a variety of subdominant hardwoods such as Sugar Maple (Acer saccharum), White Ash (Fraxinus americana), Black Cherry (Prunus serotina), Bitternut Hickory (Carya cordiformis), American Basswood (Tilia americana) and Eastern Hemlock (Tsuga canadensis), a conifer associate.

Subcanopy

The subcanopy is of medium density and is represented by a variety of hardwood species.

Shrub Layer

The shrub layer is of light density and includes Brambles (Rubus spp.).

Herbaceous Layer

The herbaceous layer is of medium density and is dominated by a variety of ferns such as Spinulose Woodfern (Dryopteris spinulosa), New York fern (Thelypteris noveboracensis), Lady fern (Athyrium filix-femina), Christmas fern (Polystichum acrostichoides) and Ostrich fern (Matteuccia struthiopteris) along with scattered herbs.

Successional Status

This field represents a generally "open" young - middle aged Hardwood Forest dominated by American Beech (Fagus grandifolia) and a variety of other hardwood species. This forest will continue to evolve into a mature Beech dominated Climax Forest.

Botanical Concerns - includes both invasive and protected species

Invasive: None

Protected: All ferns listed under "Herbaceous Layer".

Lot 7 Summary and Recommendations

FIELD WORKSHEET #3
WILDLIFE SUMMARY

Lot # 7 offers a good variety of habitats for diverse populations of wildlife. Most fields in this Lot (Fields Numbers 3-10) represent mature Conifer Plantations in various stages of hardwood succession. Field Numbers 1 and 2 include a mature Maple/Beech Forest while Field Number 11 represents a young - middle aged mixed Hardwood Forest.

During a period of two days, staff ecologists recorded a variety of wildlife observations focused upon actual sightings and other wildlife "signs". The following list represents a brief overview of those encounters focused upon Mammals, Birds and Reptiles/Amphibians.

Mammals

Whitetail Deer (Odocoileus virginianus)
Eastern Chipmunk (Tamias striatus)
Red Squirrel (Tamiasciurus hudsonicus)
Gray Squirrel (Sciurus carolinensis)

Birds

Wild Turkey (Meleagris gallopavo)
Pileated Woodpecker (Dryocopus pileatus)
White-breasted Nuthatch (Sitta carolinensis)
American Goldfinch (Carduelis tristis)
Black-capped Chickadee (Parus atricapillus)
Blue Jay (Cyanocitta cristata)
Great Crested Flycatcher (Myiarchus crinitus)
Hairy Woodpecker (Picoides villosus)

Reptiles/Amphibians

American Toad (Bufo americanus)
Spring Peeper (Hyla crucifer)

FIELD WORKSHEET #4
RECOMMENDATIONS

The following recommendations for Lot # 7 of the Erie County Forestry Management Plan are based upon field data collected by Earth Spirit Educational Services, Inc. in the areas of Forest Ecology, Wildlife Biology and general Ecology.

Field Numbers 1 and 2

Description - These fields represent mature Hardwood Forests dominated by Sugar Maple (Acer saccharum) and American Beech (Fagus grandifolia). Hardwood diameters (basal area) and densities are uniquely high in these fields.
Recommendations - These fields represent an excellent opportunity for a selective harvest of mature hardwoods.

Field Numbers 3, 4, 5, 7 and 8

Description -These fields represent mature Conifer Plantations of Norway Spruce (Picea abies), Scotch Pine (Pinus sylvestris) and White Pine (Pinus strobus) in various stages of hardwood succession.
Recommendations - These fields should be actively managed with particular emphasis on Norway Spruce. The Scotch Pine and White Pine (high weevil activity) are generally in fair condition and should be thinned as deemed appropriate. Mature hardwoods, especially Black Cherry, should remain untreated for their value as "seed trees".

Field Numbers 6, 9 and 10

Description - These fields represent mature Conifer Plantations of Red Pine (Pinus resinosa) and Norway Spruce (Picea abies) with significant intrusions of mature Black Cherry (Prunus serotina).

Recommendations - These fields should be actively managed for both Red Pine and Norway Spruce. Emphasis should be placed on the Red Pine in these fields due to both their slow growth and the realization that future growth is negligible due to environmental restrictions (especially water availability). Black Cherry may also be selectively thinned in these fields as long as ample "seed trees" remain.

Field Number 11

Description - This field represents a young - middle aged Hardwood Forest dominated by American Beech (Fagus grandifolia) and a variety of subdominant hardwoods.

Recommendations - This field should remain without treatment in order to promote habitat diversity for local wildlife.

Lot 7
Soils, Waterways and Topography

Soils

Soils on Lot 7 lie in bands parallel to Olean Road, and include (from upslope) the moderately well drained, moderately permeable Marilla Channery Silt Loam (MfB), with 3-8% slopes, the Valois Gravelly Silt Loam (VaB and VaD), a well drained soil with moderate to rapid permeability and 8-25% slopes, and the well drained, rapidly permeable Varysburg Gravelly Loam (VbB and VbD), with 8-25% slopes. A small section of somewhat poorly drained Rhinebeck Silty Clay Loam (RhC3), 8-15% slopes, occurs at the western border of the lot, adjacent to a railroad. Soils on this lot are highly erodible and soil disturbing activities should be limited to dry seasons or after soil freeze to minimize gully and rill erosion.

Waterways and Topography

The lot slopes continually over 300 feet downward toward the railroad, with several linear gullies. No perennial waterways are located on Lot 7, however large storm events could cause soil erosion in the gullies if the soil is disturbed. Forested buffers should minimize erosive forces.

Lot 7
Forest Stewardship Recommendations

Stand A (Fields 1, 2) **HIGH PRIORITY**

This is an uneven-aged stand of northern hardwoods containing predominantly sugar maples and beech with lower quantities of hemlock, black cherry and bitternut hickory. The stand density is moderately high, up to 120 sq ft/ac of basal area. Maximum diameters are large sawtimber, 20-30"+. Understory is composed of ironwood, sugar maple and beech saplings, with a very dense groundcover of sugar maple seedlings under 12" high. Because of the large diameters, advance seedling reproduction and stand density, a light, selection harvest could be done in this stand, across many diameters, reducing the basal area by no more than 1/3. Insist upon no-cut buffers along property boundaries and on all the short, steep sides of ravines crossing this stand. Recheck in 15 years.

Stand B (Fields 3, 4, 5, 7, 8) **MEDIUM PRIORITY**

These are areas of mature conifer plantations including Norway spruce, Scots pine, white pine and larch, with scattered small to medium sawtimber size hardwoods of black cherry, ash and elm. The pine understory has scattered saplings of black cherry, white ash and beech. The spruce areas have little or no understory. Stand density is high, varying from 150 to 220, sq ft /ac with average diameters 11-14". The mature pines should be scheduled for patch harvesting to complete the transition to native hardwoods. However Field 3, with poor quality Scots pine, should be left alone to revert to the ash and cherry coming in there now. Before any harvesting occurs, the wild grapevines should be controlled either by cutting or treatment with herbicides. The scattered sawlog hardwoods of cherry, ash and elm plus the best looking white pine with at least 30% live crown ration should be left for seed trees (5-10/ac), which then could be salvaged (except the white pine) about 3-5 years after the conifers are cut. Recheck 3 years after conifer harvest.

Stand C (Fields 6, 9, 10) **MEDIUM PRIORITY**

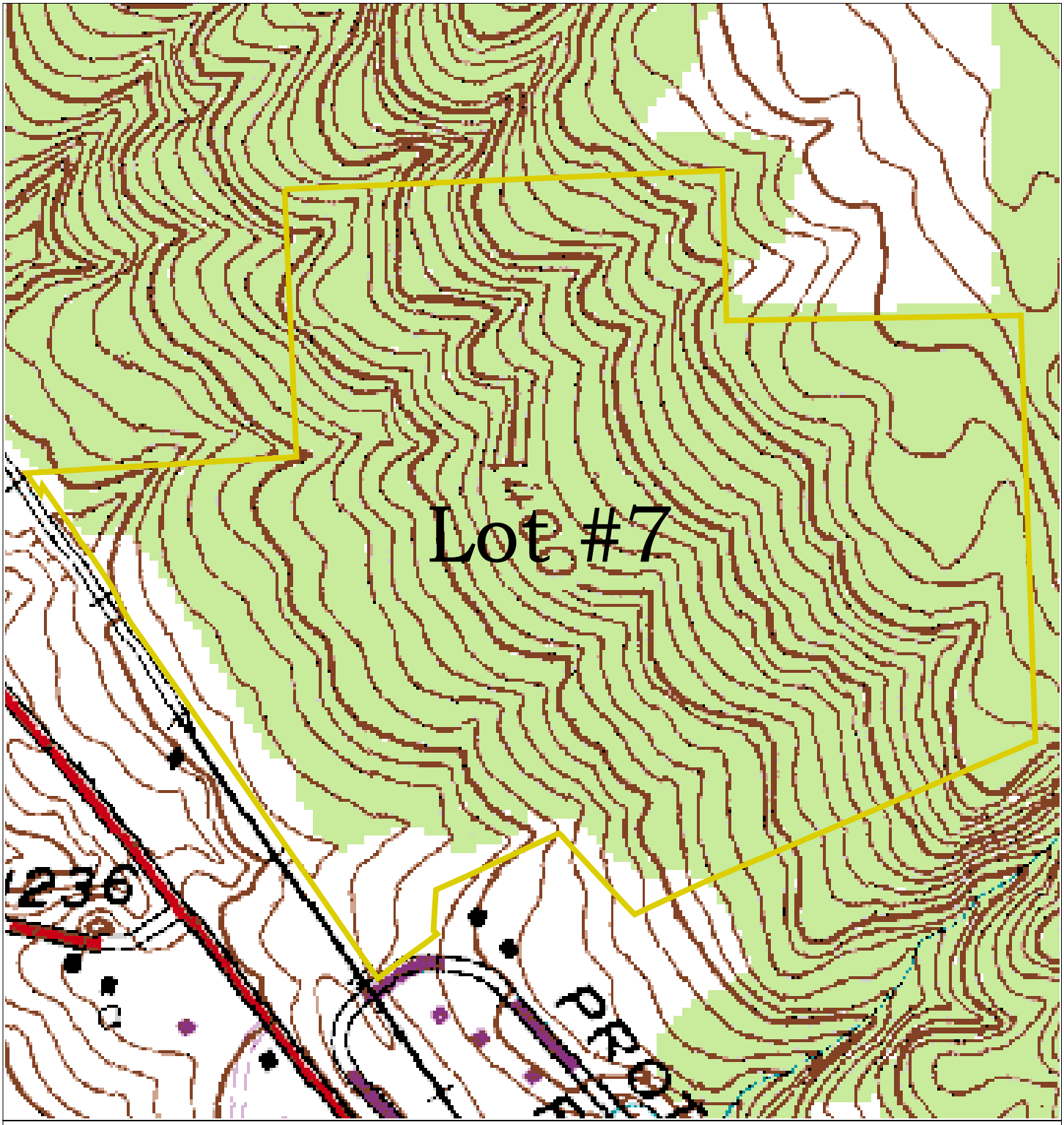
These are areas of mature conifer plantations including Norway spruce and red pine with scattered medium sawtimber size hardwoods of black cherry and aspen. The stand density is very high, from 190 to 230 sq ft/ac with average diameters 10-14" and a maximum of 20". The live crown ratios of red pine are very low at 15-20%, with Norway spruce at 20-30%. Windthrow is common in the Norway spruce areas. There is no understory in the pure spruce areas, with some hardwood saplings in the pine areas. Patch harvesting along the contours should be done in the conifers to convert to native hardwoods. Erosion and windthrow are definite hazards, so extra care must be taken on all roads and trails. The scattered sawtimber hardwoods should be left for seed trees (up to 5-10/ac) and if there are extras, they could be harvested along with the conifers. Recheck 3 years after harvesting.

Stand D (Fields 11) **HIGH PRIORITY**

This is an uneven-aged stand of northern hardwoods containing predominantly beech with lower quantities of hemlock, black cherry, white ash, sugar maple, bitternut hickory and cucumber. The stand density is moderately high, up to 120 sq ft/ac of basal area. Maximum diameters of some of the lesser species are medium sawtimber, but most trees of beech and maple are medium to large poles. Understory is composed of ash, maple, cherry and beech saplings; seedlings are scarce. This area should have timber stand improvement done to remove diseased beech, favoring healthy, good-crowned trees for seed production. Recheck in 15 years.

General

Best Management Practices (BMPs) for erosion control should be followed on the trails used by ATVs. This use is strictly prohibited on County Forest property and violators will be prosecuted.



Erie County Forest Management Plan

USGS Topographic Quadrangle

Map Prepared By:
Erie County Soil and Water Conservation District

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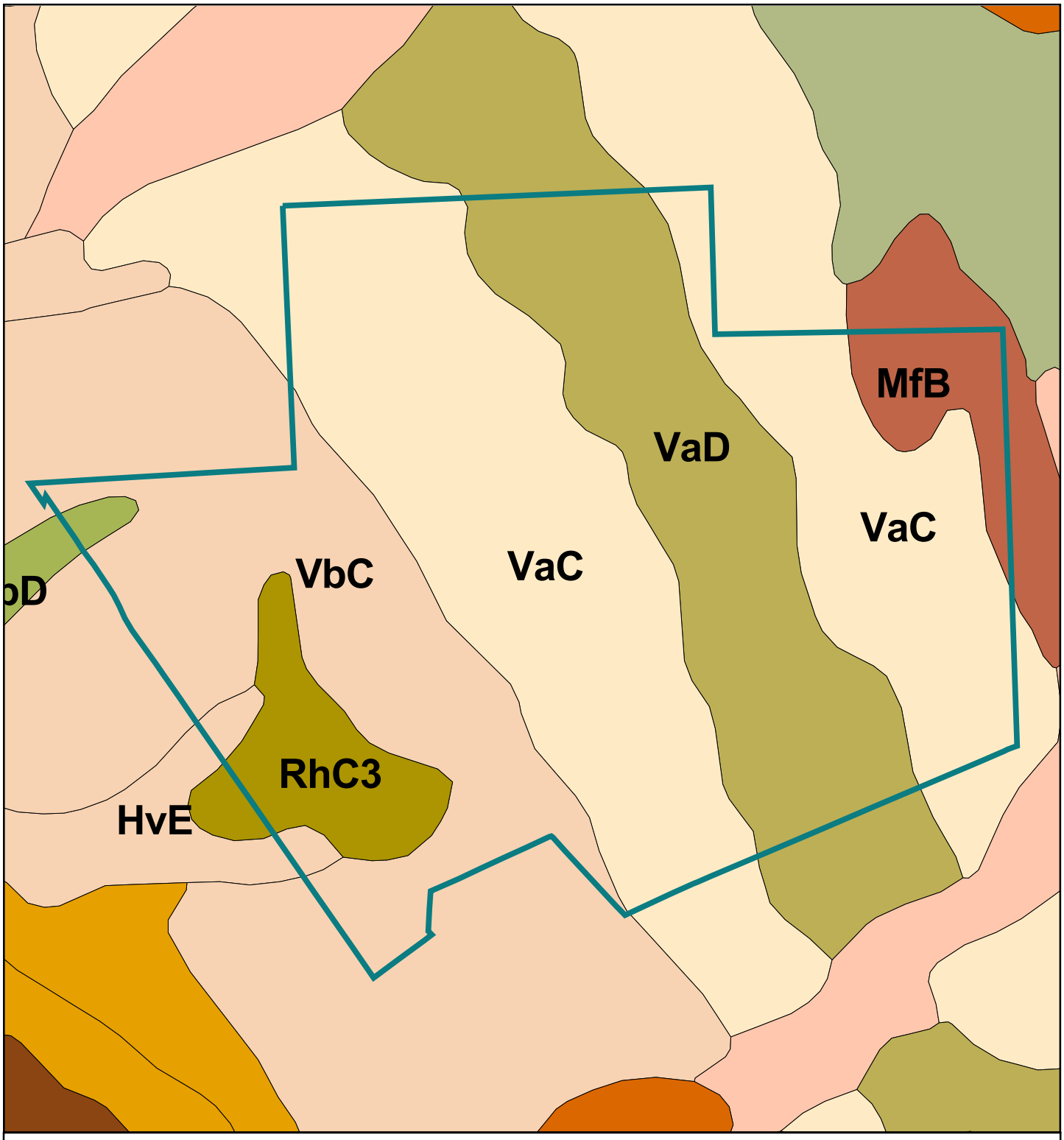
400 0 400 Feet



Erie County Forest Management Plan

Lot #7 - Soil Types

Map Prepared By:
Erie County Soil and Water Conservation District

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Erie County Soil and Water Conservation District & USDA Natural Resources Conservation Service

Brief Soil Descriptions – Lot 7

For further information refer to the *Soil Survey of Erie County, New York*.

Symbol **Name / Description**

HvE Hudson Silty Clay Loam, 25 to 40 Percent Slopes

Deep, very steep, well drained, high lime, silt loam soil formed in clayey glacial lake sediments. The available water capacity is moderate to high. Permeability is moderate to slow in the surface and subsoil layers and slow to very slow in the underlying layers. HIGHLY ERODIBLE LAND, CAPABILITY CLASS-VIe, NYS SOIL GROUP-9b, K=.49, T=3

MfB Marilla Channery Silt Loam, 3 to 8 Percent Slopes

Deep, gently sloping, moderately well drained, low lime, shaly silt loam soil formed in very shaly glacial till. It has a very firm fragipan at a depth of 18 to 55 inches. The available water capacity is moderate. Permeability is moderate above the fragipan and slow or very slow in the fragipan and substratum. POTENTIALLY HIGHLY ERODIBLE LAND, CAPABILITY CLASS-IIw, NYS SOIL GROUP-4b, K=.24, T=3

RhC3 Rhinebeck Silty Clay Loam, 8 to 15 Percent Slopes, Severely Eroded

Deep, sloping, somewhat poorly drained, medium to high lime, silt loam soil formed in clayey lake sediments. The available water capacity is moderate to high. Permeability is very slow. HIGHLY ERODIBLE LAND, CAPABILITY CLASS-IVe, NYS SOIL GROUP-7b, K=.49, T=3

VaC Valois Gravelly Silt Loam, 8 to 15 Percent Slopes

Deep, sloping, well drained, low lime, gravelly silt loam soil formed in coarse loamy glacial till. The available water capacity is low to moderate. Permeability is moderate to rapid. HIGHLY ERODIBLE LAND, CAPABILITY CLASS-IIIe, NYS SOIL GROUP-5b, K=.24, T=3

VaD Valois Gravelly Silt Loam, 15 to 25 Percent Slopes

Deep, moderately steep, well drained, low lime, gravelly silt loam soil formed in coarse loamy glacial till. The available water capacity is low to moderate. Permeability is moderate to rapid. HIGHLY ERODIBLE LAND, CAPABILITY CLASS-IVe, NYS SOIL GROUP-6b, K=.24, T=3

VbC Varysburg Gravelly Loam, 8 to 15 Percent Slopes

Deep, sloping, well drained and moderately well drained, medium lime, gravelly loam soil formed in gravelly material and underlying lake sediments. The available water capacity is generally low. Permeability is rapid in the gravelly part and generally slow or very slow in the underlying lake sediments. HIGHLY ERODIBLE LAND, CAPABILITY CLASS-IIIe, NYS SOIL GROUP-5b, K=.24, T=3

1965 Conservation Plan Map

Lot #7

Erie County
Forest Management Plan

Map Prepared By:
Erie County Soil and Water
Conservation District

* Basemap Source: 1995 Color IR Orthophotography

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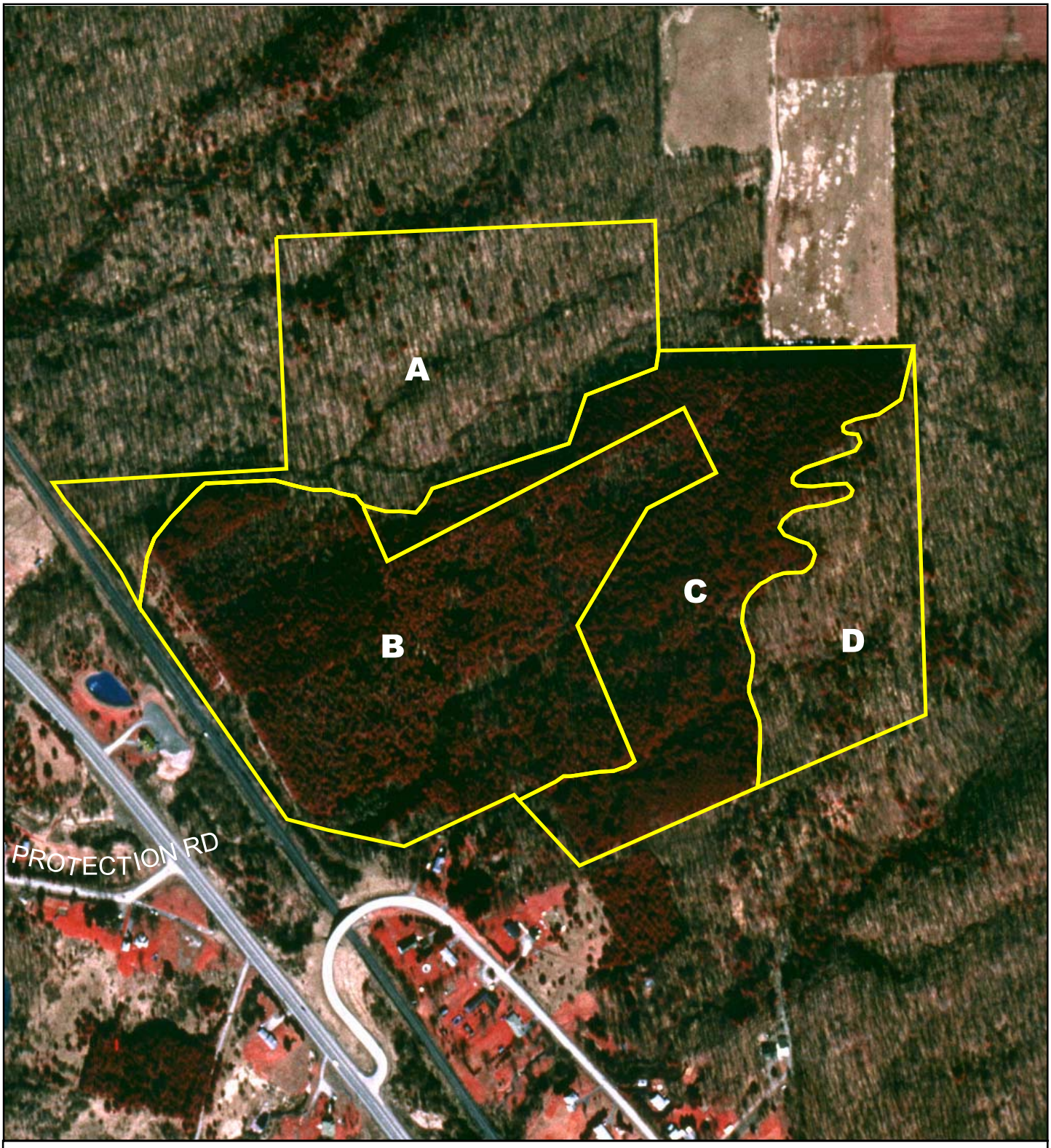

2003 Stewardship Recommendation Map

Lot #7

Erie County
Forest Management Plan

Map Prepared By:
Erie County Soil and Water
Conservation District

* Basemap Source: 1995 Color IR Orthophotography

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